

# Notice of Allowability

Application No.

09/411,863

Applicant(s)

IZHAR, SHAMAY

Examiner

Anne R. Kubelik

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed 4/1/04.
2. ☒ The allowed claim(s) is/are 49, 51, 60 and 71-77, renumbered 1, 10, 9 and 2-8, respectively.
3. ☒ The drawings filed on 05 June 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                       |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance                         |
|   | 9. <input type="checkbox"/> Other _____.  |

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*Examiner's Amendment*

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Rodney Fuller on 11 June 2004.

Claims 78-79 are cancelled without prejudice.

Claim 49. (Currently Amended) A method of generating a male sterile plant [characterized by exogenic allelism in a plant], the method comprising the steps of:

(a) providing a first plant and a second plant each [including] comprising an expression cassette in the same chromosomal location, said expression cassette comprising:

(i) a first segment comprising a first transcribable polynucleotide sequence, said first transcribable polynucleotide sequence being operatively linked to a first promoter sequence, wherein said first segment is [being] flanked by [a pair of] first site-specific recombination sequences; and

(ii) a second segment, being linked to said first segment, said second segment comprising a second transcribable polynucleotide sequence, said second transcribable polynucleotide sequence being operatively linked to a second promoter sequence, wherein said second segment is [being] flanked by [a pair of] second site-specific recombination sequences;

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(b) introducing by transformation or crossing a first polynucleotide sequence encoding a first recombinase into said first plant, [or crossing said first plant with a plant that has been transformed with a polynucleotide sequence encoding the first recombinase,] wherein said first recombinase recognizes the first site-specific recombination sequences so as to excise said first segment and produce a first plant comprising the first recombinase, [and] selfing said first plant comprising the first recombinase, and selecting a progeny devoid of the first polynucleotide sequence encoding said first recombinase, wherein the progeny comprises the second segment of the expression cassette [in which] but not the first segment [has been excised];

(c) introducing by transformation or crossing a second polynucleotide sequence encoding a second recombinase into said second plant, [or crossing said second plant with a plant that has been transformed with a polynucleotide sequence encoding the second recombinase,] wherein said second recombinase recognizes the second site-specific recombination sequences so as to excise said second segment and produce a second plant comprising the second recombinase, [and] selfing said second plant comprising the second recombinase, and selecting a progeny devoid of the second polynucleotide sequence encoding said second recombinase, wherein the progeny comprises the first segment of the expression cassette [in which] but not the second segment [has been excised]; and

(d) crossing [a plant] the progeny resulting from step (b) with [a plant] the progeny resulting from step (c), so as to generate an offspring plant characterized by exogenic allelism, wherein expression of the first and the second transcribable polynucleotide sequences results in male sterility of the plant.

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Claim 51. (Currently Amended) A male sterile plant heterozygous for an expression cassette comprising:

(a) a first segment comprising a first transcribable polynucleotide sequence, said first transcribable polynucleotide sequence being operatively linked to a first promoter sequence, wherein said first segment is [being] flanked by [a pair of] first site-specific recombination sequences; and

(b) a second segment, being linked to said first segment, said second segment comprising a second transcribable polynucleotide sequence, said second transcribable polynucleotide sequence being operatively linked to a second promoter sequence, wherein said second segment is [being] flanked by [a pair of] second site-specific recombination sequences, and wherein said second transcribable polynucleotide sequence [encoding] encodes a polypeptide or an RNA molecule [capable of regulating an] that regulates the expression level of a product of said first transcribable polynucleotide sequence,

wherein expression of the first and the second transcribable polynucleotide sequences results in male sterility of the plant.

In claim 72, line 2, --cytostatic or cytotoxic-- was inserted before "polypeptide".

In claim 76, line 2, "a" was replaced with --the--.

#### IN THE ABSTRACT

[A non-human eukaryotic organism having a genome which includes a first exogene being in a first chromosome of a chromosome pair of the genome and a second exogene being in a second chromosome of the chromosome pair, the first and the second exogenes being in allelic

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relationship, such that the first and the second exogenes obligatorily segregate to different gametes.] The invention is drawn to a method of producing a male-sterile plant by using two different recombinases to generate different deletions in a transgenic construct in a plant, thereby resulting in a male-sterile plant with two different constructs in an allelic relationship to one another.

IN THE TITLE:

A METHOD OF PRODUCING A MALE-STERILE PLANT BY EXOGENIC

ALLELISM

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (571) 272-0547.

Anne R. Kubelik, Ph.D.

June 14, 2004



ANNE KUBELIK  
PATENT EXAMINER